ATTACHMENT 1
PERFORMANCE WORK STATEMENT (PWS)
INSTRUMENT PROCEDURES DEVELOPMENT SYSTEM (IPDS)
Training – Module 1
February 27, 2009

1.0 GENERAL

1.1 Requiring Office: Federal Aviation Administration (FAA), Air Traffic Organization – Technical Operations (ATO-W), Aviation System Standards Flight Procedures Group, and DoD.

1.1.1 Training for Instrument Procedures Development System (IPDS).

1.1.2 Performance Time: Each module - 540 calendar days from date of contract issuance.

1.1.3 The Contracting Officer (CO) shall delegate, in writing, specific FAA/AVN/DoD user personnel to interact with the contractor for the duration of this contract. These personnel possess no implied or express authority to change the contract or the Performance Work Statement (PWS) or otherwise commit the Government.

1.2 Scope of Work: Contractor shall design, develop, and deliver the IPDS module one training program. Contractor will also coordinate and collaborate any training requirements, design, development, and delivery of IPDS training modules with the Flight Procedures Group training department and IAW the Training Standards Guide (Attachment 2) and the guidelines listed below.

1.2.1 Required documentation for this process:

1.2.1.1 Training Development Plan (TDP) or equivalent: The TDP is a work plan used in the development of a training course. This course control document establishes the parameters within which the course development will take place. It identifies resources, deliverables, a schedule, and addresses any issues and concerns that need to be addressed. A TDP or similar document is needed to keep the associated training course properly maintained and updated.
The TDP contains:

- Purpose
- Objectives
  - Conditions
  - Standards
- Technical approach
- Job and Task Analysis (JTA)
  - Jobs, Duties, Tasks, subtasks, elements, sub-elements
  - Skills and knowledge
  - Priority of tasks to be trained
- Media selection analysis

Schedule
Issues/Concerns

1.2.1.2 Course Design Guide (CDG) or equivalent: The output of the design phase is a CDG. This course control document takes the TDP produced earlier, and expands in more precise details the form of training outcomes and objectives, a technical course outline, a media analysis and a testing methodology.
The CDG or similar document should contain:

- Objectives
  - Instructional
  - Enabling
  - Terminal
- Course Outline
- Identifying media
- Identifying training aids (if required)
- Developing Training Materials
  - Instructor guide (Lesson Plan)
  - Training Manual
  - Student handouts (if required)
  - Practical exercises
- Identifying instructional and testing methods
- Identifying the training structure

Note: The CDG should be used as the basis for the development of training materials, tests, and overall course structure. The CDG is needed to properly maintain and update the courseware documentation.

1.2.1.3 All course materials, including but not limited to: software disks as needed for 12 FAA instructors to maintain the provided materials; suggested student handouts; 120 days before the release of each Module.

1.2.1.4 Summative and Operational Evaluations: All summative and operational evaluation reports and critiques from course development and initial training classes.

1.2.2 The above guidelines are meant to establish the minimum documentation required while allowing the flexibility to update and maintain a quality training product. A modified Instructional Systems Development (ISD) (Training Standards Guide (Attachment 2)) shall be used by the Flight Procedures Group training department to update and maintain the original MacDonald Dettwiler Associates (MDA) training materials.

1.3 Personnel Qualifications: Contractor personnel providing the required services shall have detailed knowledge of IPDS software and possess training development and delivery experience, including skills necessary to conduct technical training in a classroom environment, using electronic delivery methods.

1.4 Work Location: Contractor services in support of training development shall be performed at the contractor's facility. Contractor services in support of training delivery shall be performed at the FAA's Mike Monroney Aeronautical Center.

1.5 Invoice Procedures: The contractor shall invoice for payments in accordance with Section G, Clause G.1, of the contract.

3.0 GOVERNMENT FURNISHED PROPERTY (GFP) AND SERVICES

When performance is required at a Government facility, the Government will provide adequate and necessary workspace to teach classes, including basic office equipment and Internet access.

4.0 CONTRACTOR FURNISHED PROPERTY (CFP) AND SERVICES

The contractor shall provide qualified personnel, facilities (when performance is not at a government facility), related equipment, supplies, and services necessary for the successful performance of this PWS. The contractor shall bear the cost of training and certifying its personnel supporting the requirements of this contract.

5.0 REQUIRED TASKS

This PWS provides general requirements for IPDS Module training and references the Joint Application Design/Development (JAD) documentation, IPDS Module documentation, and Flight Procedures Group Training Performance Standard for detail requirements and specifications. Approved IPDS JAD and IPDS Module documents are hereby incorporated by reference.

5.1 Functional, Technical, and Operational Requirements

5.1.1. Training content shall include all instrument flight procedure design capabilities contained in IPDS software encompassing all procedure types.

5.1.2. Training content shall include all aeronautical data load and access functions that are required in a fully functional IPDS environment. This includes DoD stand-alone system for IPDS.

5.1.3. Training content shall include familiarization and utilization of embedded ESRI software where interface is necessary for procedure design and viewing.

5.1.4. IPDS Module training and user's manual content shall be accessible electronically via workstations connected to the FAA intranet backbone.

5.1.5 The contractor shall provide, to the Flight Procedures Group Training Department, the course material at least 120 days prior to the final release of each Module.

5.1.6 After release of the course materials to the Flight Procedures Group, the contractor shall provide two classes of instruction designed to "Train-the-Trainer to the Flight Procedures Group Training Department."

5.1.7 Sixty days prior to Module release and after the two Train-the-Trainer classes, the contractor shall attend and assist the NFPO training unit instructors with the teaching of (1) class of no more than 12 students of NFPG determination.

5.1.8 IPDS Module training software shall meet applicable provisions of Section 508 of the Rehabilitation Act of 1973, as amended.

6.0 REPORTS

The contractor shall submit monthly status reports to the CO and COTR to include progress during the reporting period along with action item status, schedule status, difficulties or delay factors, actions taken to overcome problems or delays, any assistance required by the US government, and a description of work planned for the upcoming reporting period. These reports may be submitted electronically. The monthly status report is due no later than fifteen (15) business days after the close of the calendar month.

7.0 CRITERIA AND MANUALS

Performance under this task shall be accomplished in accordance with applicable procedures, guidelines and direction referenced in this contract. *Note: Orders listed herein are basic orders and may have been up-lettered, e.g. 8260.3B. It is not intended that these basic orders be used in lieu of the most current versions.*

7.1 FAA Orders:
http://www.faa.gov/regulations_policies/orders_notices/

a) 6050.32
b) 7100.9
c) 7110.79
d) 7130.3
e) 7400.2
f) 7930.2
g) 8200.1
h) 8200.6
i) 8240.47
j) 8260.3
k) 8260.15
l) 8260.19
m) 8260.23
n) 8260.26
o) 8260.32
p) 8260.37
q) 8260.38

r) 8260.40
s) 8260.42
t) 8260.44
u) 8260.45
v) 8260.46
w) 8260.48
x) 8260.49
y) 8260.50
z) 8260.51
aa) 8260.52
bb) 8260.53
cc) 8260.54
dd) 8260.57
ee) 8400.13

7.2 Federal Aviation Regulations (FAR):
http://www.faa.gov/airports_airtraffic/airports/regional_guidance/central/construction/part77/

(a) Part 77

7.3 8400.13 Advisory Circulars:
http://www.faa.gov/about/office_org/headquarters_offices/avs/offices/afs/afs400/afs410/policy_guidance/

a) 70/7460-1
b) 70/7460-2
c) 120-28
d) 120-29
e) 150/5300-13
f) FAA NOTICE 8000.287
g) FAA NOTICE 8260.56
h) FAA NOTICE 8260.64
i) FAA NOTICE 8260.65

7.4 Requirements and Technical Concepts for Aviation (RTCA):
http://www.airweb.faa.gov/

a) DO-200A
b) DO-201A
c) DO-229C
d) DO-246C
e) DO-245A
f) DO-236B

7.5 Standards:
http://www.ngs.noaa.gov/AERO/aerospecs.htm

(a) 405 Standards for Aeronautical Surveys and Related Products

7.6 ICAO Documents:
http://www.icao.int/

a) PANS OPS Volume I Flight Procedures

b) PANS OPS Volume II & III Construction of Visual and Instrument Flight Procedures
c) ICAO DOC 8168-0PS/661 Procedures for Air Navigation Services, Aircraft Operations, Volume II
d) ICAO DOC 4444 PANS-RAC -Procedures for Air Navigation Services -Rules of the Air & Air Traffic Services
e) ICAO DOC 9274 Manual on the use of the CRM for ILS Operations
f) ICAO DOC 9371 Template Manual for Holding, Reversal and Racetrack Procedures
g) ICAO ANNEX 2 Rules of the Air
h) ICAO ANNEX 4 Aeronautical Charts
i) ICAO ANNEX 5 Units of Measure to be used in Air and Ground Operations
j) ICAO ANNEX 6 Operation of Aircraft
k) ICAO ANNEX 7 Aircraft Nationality and Registration Marks
l) ICAO ANNEX 10 Aeronautical Telecommunications
m) ICAO ANNEX 11 Air Traffic Services
n) ICAO ANNEX 14 Volume I Aerodrome Design and Operations
o) ICAO ANNEX 14 Volume II Heliports
p) ICAO ANNEX 15 Aeronautical Information Services
q) ICAO DOC 8697 Aeronautical Chart Manual
r) ICAO DOC 9365 Manual of All Weather Operations

7.7 ARINC Specification 424, Revision 17 (or most recent version)

7.8 Interagency Air Cartographic Committee (IACC) Chart Design (Support of FIGs)

7.9 Memos and Letters: These items provide supplemental guidance and are subject to change. A current list will be provided to the contractor by the COTR as they become available.

8.0 DoD

http://www.e-publishing.af.mil/

8.1 USAF

8.1.1. AFI 11-230

9.0 DELIVERABLES

Format for deliverables shall follow Training Standards Guide (Attachment 2).

9.1 120 days before a module is to be released to NFPG for use, a **Complete Training Development Plan** as described in paragraph 1.2.1.1., including but not limited to, all associated documentation, software, and software rights to the government if claiming proprietary, licensed or otherwise not available to the government to change.

9.2 120 days before a module is to be released to NFPG for use, a complete **Course Design Guide** as described in paragraph 1.2.1.2, including but not limited to, all associated documentation, software and software rights to the government if claiming proprietary, licensed or otherwise not available to the government to change.

9.3 120 days before a module is to be released to NFPG for use, one (1) hard copy and one (1) electronic copy of all course material, complete and ready to use for instruction, including but not limited to lesson plans, student handouts, instructor notes and/or script.

Items Listed in 9.1, 9.2, and 9.3 must be accepted by the CO or COTR 10 days after delivery.

9.4 After delivery of the items listed above, but not later than **60 days** before a module is released to NFPG for use, the contractor will provide two (2) classes of not more than 12 students each, of instruction for "Train the Trainer". The NFPG training unit will be the primary students, however others as determined by the FAA, not to exceed 12 total per class, may attend.

9.5 Following the "train-the-trainer" classes but prior to **30 days** before a module is released to NFPG for use, the contractor will be required to attend and assist the NFPG training unit instructors with the of teaching of one (1) class of no more than 12 students of NFPG determination.

NOTE: All documents referenced shall be considered "non-proprietary" with no restrictions.

10.0 GOVERNMENT ACCEPTANCE

In addition to Clause E.1 and AMS Clause 3.10.4-4, the Government reserves the right of final approval for the functional, technical, and documentation requirements compliance of IPDS Training.

11.0 DEFINITION OF TERMS/ACRONYMS:

Unless otherwise defined in this PWS, all terms and conditions shall be defined in the contract.

2D – Two-dimensional
3D – Three-dimensional
AAA – Airport Airspace Analysis
AAFIF – Automated Air Facility Information File
AFFSA – Air Force Flight Standards Agency
AirNav – Airports and Navigation aids database (AVN aeronautical data)
AIP – Airport Improvement Plan
AIXM – Aeronautical Information Exchange Model
AMS – Acquisition Management System
API – Application Programming Interface
APTS – AVN Process Tracking System
ARINC – Aeronautical Radio Incorporated
AT – Air Traffic

ATO – Air Traffic Organization
AVN – Aviation System Standards
CDs – Compact Disks
CDR – Concept Design Review
CDRL – Contract Data Requirements List
CFP – Contractor Furnished Property
CLIN – Contract Line Item Number
CO – Contracting Officer
COTR – Contracting Officers Technical Representative
CR – Cost Reimbursement
CRM – Collision Risk Model
DAFIF – Digital Aeronautical Flight Information File
DAFIS – Departmental Accounting and Finance Information System
Delphi –FAA accounting system
DEM – Digital Elevation Model
DME – Distance Measuring Equipment
DMZ - FAA Network Security
DOD NOTAM – Department of Defense Notice to Airmen
DOT – Department of Transportation
DT&E – Developmental Testing & Evaluation
DTED – Digital Terrain and Elevation Data
E-NOTAM – Electronic Notice to Airmen
EOV – Emergency Obstruction Vectoring
ESB – Enterprise Service Bus
ESVMS – Expanded Service Volume Management System
EVM – Earned Value Management
EVMS - Earned Value Management System
FAA – Federal Aviation Administration
FFP – Firm-Fixed-Price
FIG – Flight Inspection Graphic
FMS – Flight Management System
FP – Fixed-Price
FPLH – Fixed-Price-Labor-Hours
FPO – Flight Procedures Office
FTI – Federal Telecommunications Infrastructure
FY – Fiscal Year
GFP – Government Furnished Property
GLS – GNSS Landing System
GNSS – Global Navigation Satellite System
GPS – Global Positioning System
GUI – Graphic User Interface
HTML – Hyper Text Markup Language
IACC – Interagency Air Cartographic Committee
IAPA – Instrument Approach Procedure Automation
ICAO – International Civil Aviation Organization
IE – Internet Explorer
IFP – Instrument Flight Procedure
IFR – Instrument Flight Rules
ILS – Instrument Landing System

IPDS – Instrument Procedure Development System
ISD – Instructional Systems Development
IT – Information Technology
J2EE – Java 2 Platform Enterprise Edition
JAD – Joint Application Development
LIDAR – Light Detection And Ranging (Obstacle Surveying Method)
LIS – Logistics Information System
LNAV – Lateral Navigation
LOC – Localizer
LPV – Approach Procedure with Lateral Precision and Vertical Guidance based on WAAS
MC – Mission Capable
MIA – Minimum IFR Altitude
MLS – Microwave Landing System
MMAC – Mike Monroney Aeronautical Center
MOA – Military Operations Area
MVA – Minimum Vectoring Altitude
NASR – National Airspace System Resource
NAVAID – Navigational Aid
NGA – National Geospatial-Intelligence Agency
NGS – National Geodetic Survey
NOTAM – Notice to Airmen
O&A – Over and Above
OE – Obstruction Evaluation
ORS – Obstacle Repository System
OT&E – Operational Testing & Evaluation
PANS-OPS – Procedures for Air Navigation Services, Operations
PC – Personal Computer
PDR – Preliminary Design Review
PMP – Program Management Plan
PTS – Procedure Tracking System (a subsystem of APTS)
PWS – Performance Work Statement
QA – Quality Assurance
QC – Quality Control
Quads – Topographical Quadrangle Maps/Charts
R/M – Reliability and Maintainability
RAM – Random-Access Memory
RNAV – Area Navigation
RNP – Required Navigation Performance
RTCA – Requirements and Technical Concepts for Aviation
SDAT – Sector Design and Analysis Tool
SQL – Structured Query Language
SQL*Plus – SQL with extended functionality
SRD – System Requirements Document
SRR – System Requirements Review
SRTM - Shuttle Radar Topography Mission
TARGETS – Terminal Area Route Generation, Evaluation, and Traffic Simulation
TERPS – Terminal Instrument Procedures
TBD – To Be Determined
TBN – To Be Negotiated

TLS – Transponder Landing System
TRR – Test Readiness Review
Unix – Computer operating system
USGS – U. S. Geological Survey
VNAV – Vertical Navigation
WAN – Wide Area Network
WBS – Work Breakdown Structure
XML – eXtended Markup Language